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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/602,345	06/23/2000	William S. Oakley	053313.P017	1324

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EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/602,345

Applicant(s)

OAKLEY, WILLIAM S.

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 and 22-24 is/are allowed.
- 6) ☒ Claim(s) 11 and 19 is/are rejected.
- 7) ☒ Claim(s) 12-16, 20-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

2. Claim24 is objected to because of the following informalities:
 - Line 8, "writing arrays" should read --writing array-- since there is only one writing array being claimed.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaki et al. (U.S. 5,508,990) in view of Jewell et al. (U.S. 5,526,182).

Nagasaki et al. discloses an optical recording and reproducing apparatus comprising a first array of light sources, a second array of light sources (laser diode arrays 88₁-88₅, Fig. 17), an objective lens (20) located in an optical path of each of said

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first and second light source arrays wherein the objective lens is capable of focusing at least one light beam from each of the first and second light source arrays on a target medium (optical recording medium), a detector (photodiode arrays 90₁-90₅) to receive at least a set of one or more beams having emanated from the second light source array and having reflected from the target medium, and wherein the first light source array is located on a first substrate and the second light source array is located on a second substrate, and wherein the first substrate is separate from the second substrate (Fig. 17 shows each of the plurality of laser diode arrays 88₁-88₅ being provided on a separate substrate and being arranged at different heights relative to the target medium) (col. 9, lines 1-7).

However, Nagasaki et al. fails to teach that the first and second light source arrays being each a VCSEL array.

Nevertheless, Jewell et al. discloses an optical recording system comprising an array of modulatable light sources (array 35, Fig. 7) which can perform both reading and writing data, and an objective lens (focusing lens 47) positioned relative to said array of modulatable light sources such that said objective lens is capable of focusing at least one light beam from said array of modulatable light sources on a target medium (optical recording medium 8). Jewell et al. further teaches that conventional laser diode arrays have been used as read and write optical heads but VCSEL arrays preferable because they are known for generating circular and astigmatism-free beams and they can be easily fabricated in 1D and 2D arrays of beams (col. 2, lines 21-35).

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Nagasaki et al. by incorporating VCSEL arrays as light source arrays as taught by Jewell et al. The motivation for doing so would have been to utilize the advantages provided by a VCSEL array in producing circular and astigmatism-free laser beams as suggested by Jewell et al.

With regard to claim 19, Nagasaki et al. further teaches the first and second light source arrays having the same array spacing.

Allowable Subject Matter

5. Claims 1-10 and 22-24 are allowed.
6. Claims 12-16 and 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is an examiner's statement of reasons for allowance: the primary reason for the indication of the allowability of claims 1, 12 and 22-24 is the inclusion therein, in combination as currently claimed, of the limitation that the optical recording system includes a writing array of modulatable light sources or Vertical Cavity Surface Emitting lasers formed on a substrate and a reading array of modulatable light sources or Vertical Cavity Surface Emitting lasers formed on a separate substrate, which is not found taught or fairly suggested by the prior art made of record considered alone or in combination.

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Claims 2-10, 13-16 and 20-21 are allowed because they are directly or indirectly dependent from claims 1 and 12 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments filed 02/14/02 and 02/18/04 with regard to claims 11 and 19 have been fully considered but they are not persuasive.

9. With respect to Applicant's argument concerning that Nagasaki et al. "does not teach an optical recording system having both a reading and a writing array of modulatable light sources", that "it is not apparent whether one of these arrays is a reading array and another is a writing array" (Remarks submitted on 02/14/02), and that Jewell does not "discloses or suggests a writing array ... and a reading array ..." (Remarks submitted on 02/08/04), it is noted that neither claim 11 nor claim 19 recites the first and second VCSEL arrays as being reading and writing VCSEL arrays.

The Applicant further states that in Nagasaki et al. "the group of 88₁, 88₂, 88₃, 88₄ and 88₅ should be viewed as a single array of modulated light sources" (Remarks submitted on 02/14/02), the examiner respectfully disagrees. Indeed, Nagasaki et al. teaches at col. 9, lines 1-7 that each of the laser diode arrays 88₁, 88₂, 88₃, 88₄ and 88₅ is identical to the one-dimensional laser diode array 12 and that the above laser diode

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arrays are arranged at [different] positions or heights (emphasis added), and therefore the group of laser diode arrays cannot be "viewed as a single array of modulated light sources".

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**HAI PHAM
PRIMARY EXAMINER**

March 9, 2004